DOCTOR: ALL MEMBERSHIP EXPIRED DECEMBER 31st. SEE YOUR COUNTY SECRETARY.

THE JOURNAL of the Oklahoma State Medical Association

VOLUME XII, NUMBER 1 JANUARY, 1919 Annual Subscription, $2.00

Published Monthly at Muskogee, Oklahoma, under direction of the Council.

NEW ORLEANS POLYCLINIC

Graduate School of Medicine, Tulane University of Louisiana

THIRTY-SECOND ANNUAL SESSION OPENS SEPT. 23, 1918, AND CLOSES JUNE 7, 1919

Physicians will find the Polyclinic an excellent means for posting themselves upon modern progress in all branches of medicine and surgery, including laboratory and cadaveric work. Special attention given to Military matters. For further information, address:

CHARLES CHASSAIGNAC, M. D., Dean

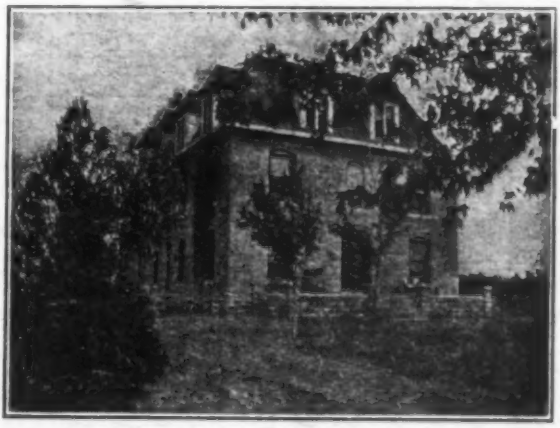
Post Office Drawer 770 NEW ORLEANS

Tulane also offers highest class education leading to degrees in Medicine, Pharmacy, Dentistry, Hygiene and Tropical Medicine

The Duke Sanitarium

Conducted by Dr. Jno. W. Duke

Formerly Clinical Assistant to the Chair of Mental Diseases, Medical Dept. University of New York. Formerly Assistant Physician, Manhattan State Hospital for the Insane, Ward's Island, New York. Formerly Assistant Physician, Connecticut State Hospital for the Insane, Middletown, Conn.



For the treatment of Nervous and Mental Diseases, Drug and Alcohol Addictions. Special attention given Baths, Dietetics, Massage and Rest Cure. A strictly Ethical Institution. We invite the investigation of every reputable physician. For rates and further particulars address

DR. JOHN W. DUKE, GUTHRIE, OKLAHOMA

THE
JOHN CRERAR
LIBRARY

Ampoules

Convenient, Aseptic, Accurate, Stable.

PARKE, DAVIS & CO.'S Ampoules of Sterilized Solutions have the approval of the foremost physicians and surgeons of America and Europe.

They are ready for immediate use.

They are aseptic.

The dose is accurate, a definite amount of medicament being contained in each milliliter of solution.

The drug is treated with the most suitable solvent—distilled water, physiologic salt solution, or oil, as the case may be.

The container is hermetically sealed, preventing bacterial contar

An impervious cardboard carton protects the solution aga effect of light.

We supply upward of eighty ready-to-use sterilized solutions.

◆ ◆ ◆

SEND FOR THIS BOOK.—Our new Ampoules brochure contains a full list of our Sterilized Solutions, with therapeutic indications, descriptions of packages, etc. It has a convenient therapeutic index. Every physician should have this book. A post-card request will bring you a copy.

PARKE, DAVIS & COMPANY

Home Offices and Laboratories, Detroit, Michigan.

THE JOURNAL of the Oklahoma State Medical Association

VOLUME XII MUSKOGEE, OKLA., JANUARY, 1919 NUMBER 1

THE ACCESSORY SINUSES OF THE NOSE.*

By R. O. EARLY, M. D., Ardmore, Okla.

I shall not bore you by going into the minute anatomy of the nose and will only refer to the anatomy of this part of the head when necessary in referring to some of the diseases of the sinuses.

Under normal conditions the accessory sinuses are capable of self drainage for the following reasons:

1st. The lining mucous membrane is composed of ciliated epithelium, the motion wave of the cilia being always directed toward the ostium of the sinus.

2nd. At every position of the body certain of the ostia are at the lowest portion of the sinus. Thus in standing or sitting the ostium of the frontal sinus is low, or lying down the maxillary sinus.

This accounts for the dissimilarity of the subjective symptoms often noted in affections of individual sinus, for instance a frequent symptom of chronic frontal sinus involvement is neuralgia over the orbital region, regularly appearing at a certain time in the morning, lasting several hours and ceasing suddenly. The explanation of this is that during the night the frontal sinus lies in an unfavorable position to allow the secretion to escape.

In the morning when the erect position is assumed the mucous membrane around the ostium is congested with resulting engorgement in the sinus; as soon as actual pressure occurs, neuralgia appears and continues until through pressure of the secretion the ostium becomes sufficiently patulous to allow escape of the secretion. Drainage is thus established and the neuralgia ceases. Of course the size of the sinus, the amount of secretion and virulence of the infection bears a direct relation to the severity and duration of the neuralgic attack.

The maxillary sinus under the same condition may exhibit totally different characteristics, for instance a patient may have all the classical symptoms of a maxillary involvement except no secretion is seen on examination, and still you get a history of profuse discharge from the nasopharynx. The explanation of this lies in the drainage mechanism; during the day the sinus secretes an amount that fills the cavity and as the ostium is situated at the superior portion, the secretion only escapes drop by drop, while the patient is in the upright position. When the patient lies on the sound side at night, the ostium is in the most favorable position for drainage and the secretion finds exit into the nose and is either hawked or blown out in the morning with the result that when one sees the patient no secretion is visible. The drainage of the ethmoid can either be simple or com-

*Read in Section on Eye, Ear, Nose and Throat, Tulsa, May, 1918.

470237
209325
LL10.6164
40

plicated. Simple when the ostium is situated in the lowest portion of the cell and empties into one of the nasal passages. Complicated when one cell empties into another and into a second or third and finally into the nose. There exists several distinct processes by which the mucous membrane of the accessory sinus may become diseased.

1st. Through direct invasion of the healthy sinus by pathogenic bacteria.

2nd. As result of tuberculosis, syphilis, malignant tumors and latent empyema.

3rd. Through traumatism—exposure to cold resulting in congested turbinates, with closure of the ostium.

4th. Through contamination from pus from overlying sinus.

Under the head of non-bacteriological disease may be considered various chronic hyperplasias and hypertrophies of the nasal mucosa. Particularly is this true of the frontal and maxillary sinuses. This condition is accounted for by repeated attacks of colds or from other causes, certain portions of the mucosa in the neighborhood of the ostium being left edematous. When reclining the blood pressure is higher in this locality with consequent swelling and temporary occlusion of the ostium. You are all familiar with swollen and congested turbinates with the resulting blocking of the ostium, the sense of fullness and the complaining of dull frontal headaches of your patients. This headache symptom taken alone is unreliable, but its presence or absence in the entire symptom complex is most important. Its mere absence means nothing, while its presence may be of inestimable value in making a correct diagnosis. Pressure on the septum from hypertrophies, which often co-exist with sinus inflammation, is one of the main causes of headache associated with this disease.

In a general way tenderness over the sinuses is of diagnostic value when present over the frontal, rarely over the maxillary; the point of tenderness generally being confined to a small area on the floor of the sinus directly above the inner canthus of the eye, this being the thinnest bony portion of the wall. And while this symptom is most indicative of frontal sinus inflammation, comparison should always be made of the sound side, for in neurotic individuals false impressions may often be obtained.

Gruenwald claims that pressure between the eyes will often elicit tenderness in ethmoidal diseases. This hardly seems possible when one considers the anatomy of the ethmoid region and I can only account for this symptom, if it is ever present —and personally I have never been able to demonstrate it—from the fact that where the ethmoid is diseased the frontal is also involved, and I believe if any tenderness is obtained it is from the latter.

In enumerating the above and following symptoms I have endeavored to speak of the sinuses collectively, as it would require too much of your time to take up each individually.

One of the chief symptoms of sinus disease is the presence of a purulent secretion in the nose. However, the mere presence of the secretion is no more indicative of sinus involvement than is absence proof that no sinus disease exists. If, however, secretion reappears in the same spot shortly after being removed, the evidence is positive that a reservoir of purulent material is underlying; it being impossible for a circumscribed inflammation of the mucous membrane to secrete pus so rapidly in such a short space of time. The classical symptom of sinus empyema is the presence or continued reappearance of pus. In a particular locality of the nose (beneath the anterior third of the middle turbinate for anterior sinus disease, in the olfactory fissure and above the posterior end of the middle turbinate in posterior disease), diminution is usually a sign of remission, but sometimes is due to occlusion with recurring symptoms.

Another symptom sometimes overlooked, and which is indirectly caused by the secretion, is the subjective appreciation of an offensive odor in the nose.

Edema of the tissue over the affected sinuses is not generally present until

the disease is well advanced. Fever is generally present but exhibits no noteworthy characteristics; the sudden rise of temperature in chronic inflammation is indicative of toxic reabsorption through the sinus walls or of impending and severe complication, such as rupture into the neighboring parts.

In making a diagnosis of a suspected sinus disease, therefore, we look for free pus. If we see pus coming down between the bulla and middle turbinate we ascertain whether the secretion is an overflowing or merely due to a circumscribed inflammation of the mucous membrane.

Our next step is to ascertain which sinus of the first series is involved. We first turn to maxillary sinus for this reason: (1) More frequently affected than others; (2) It is situated at lowest portion, and (3) It is reasonably easy of access.

The one best method of ascertaining whether pus is present is by needle puncture. If pus is present, our next attempt is to find whether the inflammatory product has been secreted by the maxillary mucosa or has merely acted as a receptacle for pus from overlying sinuses. If after a wait of an hour or so pus is noted beneath the middle turbinate, we can definitely say that one of the sinus higher up (frontal or anterior ethmoid) is affected. We then proceed to wash out the frontal sinus if possible.

The differentiation between frontal sinus empyema and suppuration of the anterior ethmoidal cells is more or less of a rhinological nicety, both generally involved and the therapy in both instances being the same.

Of the sphenoidal and posterior ethmoidal group, pus from these sinuses must appear in either of two places: (1) In the olfactory fissure; (2) Above the posterior end of middle turbinate. Other methods of diagnosis are: (1) Transillumination; (2) Roentgen Ray, and (3) Suction.

At Killian's clinic in Berlin, patients with suspected sinus disease are routinely subjected to X-ray examination. As regards treatment, this depends on many conditions. The individual's symptoms are the keynote upon which to base our therapeutic or operative efforts. Take for instance two cases of acute sinus involvement, one presenting a mild course, the other presenting every evidence of impending cerebral or orbital complication: The first may be treated expectantly, but to the latter prompt and energetic means must be applied.

I have not gone into the complications resulting from accessory sinus diseases. I might mention the more important being those of the orbital cavity, the optic nerve and brain complications. In closing, I wish to say a word regarding vaccine therapy in these cases. The value, I think, in sinus diseases is questionable for the following reasons: (1) Acute cases have a tendency toward spontaneous recovery; (2) The majority of chronic cases are associated with mixed infection; therefore, when the culture is planted, how can one decide which particular organism is causing the suppuration? To make a vaccine of the mixed culture would lead to no satisfactory result. In cases where one could get a pure culture of the infecting micro-organism, this treatment might be tried, but I think the cases rare which are not ones of mixed infection.

A. E. Ewing, St. Louis (*Journal A. M. A.*, Dec. 14, 1918), fully reports a case of glaucoma which was treated with repeated postciliary trephining operations. The result was not good, as it left a blind eye, but the process, as used, demonstrated that the removal of vitreous to the extent that the tension is far below normal is no more a cure for glaucoma than is the removal of the lens. Drainage may be established by way of the vitreous chamber. A trephined wound in the sclera is closed by newly formed fibrous tissue, in the same manner as a trephined wound in the sclerocorneal margin, and is no more dangerous. The clouding of the cornea and vitreous, and the pulsation on the disk may be instantly relieved by vitreous drainage with immediate restoration of vision. The full feeling and pain of glaucoma are relieved by sclerocorneal trephining, even though the choroid is not disturbed and there is no apparent lowering of tension. The lens is not affected by the operation, and there need be no visible operative defect.

OPERATIONS ON THE NASAL SEPTUM.*

By HARRY COULTER TODD, A. M., M. D., F. A. C. S.

Associate Professor of Clinical Ear, Nose and Throat, University of Oklahoma School of Medicine; Ex-President, Oklahoma Academy of Ophthalmology and Oto-Laryngology; Ex-Chairman of the Eye, Ear, Nose and Throat Section of the Medical Association of the Southwest, The Oklahoma State Medical Association, etc.

Nine years ago I read a paper before the Ophthalmological section of the Medical Association of the Southwest, which met at San Antonio, Texas, on "Conservation of the Mucous Membrane in Intra-Nasal Surgery." Radical intra-nasal surgery prior to that date and for some time following that period, was very general with little consideration given to the preservation and care of normal tissues. Radical intra-nasal surgery had its beginning largely in the Vienna and Berlin schools, and was quickly taken up by American operators. Beginning in the early 90's it reached its ascendency about eleven years ago.

What called forth my paper in 1909 heretofore referred to, was the end results in many of these radical intra-nasal operations performed by myself and others, which I was permitted to observe. I found that serious atrophic changes had often taken place. Scar tissue had supplanted healthy mucous membrane and often normal and necessary functionating intra-nasal structures had been destroyed and serious and incurable conditions had developed, which far outweighed in gravity the original disturbing trouble for which relief had been sought.

My paper was received at that time kindly, but with no great amount of enthusiasm, and little if any discussion. It is a great satisfaction to me, however, to know that others at that time were making similar observations, and the fact that the *International Journal of Oto-Laryngology* published in Berlin, reprinted this paper almost in full, would suggest that its editor regarded my words as at least timely. I do not need to tell you of the change that has taken place with regard to radical intra-nasal surgery during the past six or eight years.

I make this rather lengthy preface to my remarks at this time a little in defense, perhaps, of the position I am about to take in regard to operations upon the nasal septum. It is my opinion, gentlemen, that, in surgical procedures anywhere about the human body, and especially in the nose, no normal, healthy, functioning tissue of any kind should be removed, unless it is found absolutely necessary to remove such tissue in order to restore the functions of more important tissues or organs. This, I believe, should be the law of all good surgery.

Up until a few years ago a distorted, twisted, thickened and deflected nasal septum, if not the bane of the rhinologist, was to say the least, often operated with results not wholly satisfactory to the patient or to the surgeon.

A big step was made towards the satisfactory relief of these conditions in the operation devised by Freer and others, the sub-mucous resection of the nasal septum, as it has been quite universally done by rhinologists for the past few years. This operation, as you are well aware, consists in thoroughly elevating the mucous membrane from the deviated septum and removing for the most part all the twisted bone and cartilage. It has been my observation that many of the septa operated on by myself, and by other much more skillful operators, having lost the stability and firmness given them by the bone and cartilage often bow towards one or the other nasal cavity, greatly enlarging one nasal chamber at the expense of the other. It is true that this rarely if ever interferes with the breathing, as the septum is rendered sufficiently movable to admit of air being inhaled and exhaled through the constricted side, and therefore the chief disturbance from your septal deformity has been relieved. There are conditions I believe, however, in which the wide open nasal chamber on the one side and the more or less constricted chamber on the other, may have a pathological bearing.

---

*Read in Section on Eye, Ear, Nose and Throat, Tulsa, May, 1918.

One of these conditions, and that which led me to a consideration of the operation, which I shall later describe to you, is where we have deflected septum with the development of atrophic rhinitis on the open side of the nose. This type of unilateral atrophic rhinitis is quite frequently met with. It occurred to me that what we needed is these cases, was not a thinning of the septum and a further increase in the intra-nasal space, but a reduction of the nasal chamber on the affected side where the turbinates were already partly gone, and the bringing about of a normal patency on the obstructed side. I found that the sub-mucous resection as ordinarily done did not obtain this result. The mucous membrane on the open and affected side necessarily becomes greatly thinned by the atrophic changes upon this side, while the mucous membrane of the other side becomes thickened by the constant hyperemia produced by the ever present negative air pressure, due to the restricted nares. Following the ordinary sub-mucous resection with the healing process, along with the fact that one side was much more open from atrophy of the turbinates, etc., the yielding septum always bowed towards the side of the thickened mucous membrane, that is to the side that had formerly been constricted. This is exactly what we do not want in attempting to relieve these conditions. You will find (and I want you to note this remark) that if you will greatly reduce the nasal chamber upon the affected side in these cases of unilateral atrophic rhinitis almost to the point of producing a negative air pressure, at the same time establishing free breathing space upon the side hitherto obstructed by your deflection, you can bring about complete relief and a practical cure in a large per cent. of these cases. I am not able to account for this fact unless it be that the constriction causes a hyperemia more or less constant, which is just the condition that we need in the treatment of these conditions. The operation that I devised for this particular condition, and which I have since come to use in a large proportion in all cases of deflected septa, is this:

I proceed with my incision and the elevation of the membranes on either side of the septum exactly as I do in an ordinary resection. If the cartilage is badly twisted or curled, I remove it. If it is simply deflected, I separate it freely from its upper or lower attachment, sometimes from both, and swing it into place. The cartilage is more often removed if it is badly misplaced. If the palatal process is greatly thickened, with a pair of bone cutting forceps I cut backward just above this ridge and remove this process. The same is done if there is a thickened ridge in the septal plates, but a great mass of the deflected ethmoid plate or vomer, or both, are not removed. These, as you know, are very thin plates of bone firmer, but not usually thicker than an egg shell. These I grasp high up with a wide blade forceps and fracture thoroughly and bring them into proper position. I then press the blades of my sub-mucous speculum together while it is in position and examine both nasal chambers to be sure that I have perfectly corrected the deflection. I remove any small pieces of septal bone that have been broken off, and may have dropped down into the bottom of the cavity—although I have never seen any ill results from leaving them behind, as I am sure I have done a number of times, and I proceed with my dressings as in an ordinary resection. If the deflection is high up and far back, one needs to be a little more careful that gentle pressure is brought to bear from your dressings over the entire surface of the septum operated.

The principal bad result that can come as I have found in this operation, is in not fracturing the bony septum high enough so that you leave the upper portion protruding to the deflected side or by not fracturing your curved bony structure sufficiently.

The after dressings must be worn longer and be introduced with a little more care than is the case in the ordinary resection, but only on the deflected side where they cause but little trouble and should be replaced daily for a week or ten days.

In cases of unilateral atrophic rhinitis, I always over correct the deflection so as to permanently reduce the breathing space on this side.

I do not claim the above as a universal operation—there are cases where it could not be done at all with success. Again, where you have both nasal chambers greatly reduced from lack of breathing, it is of great advantage to make a septum as thin as possible. However, the longer I follow the above method the less and less bone and cartilage I am removing from the septum with the result that I am getting a firmer septum which stays where I place it and does not tend to sag to one or the other side. Moreover I am leaving things a little more as evidently God Almighty intended they should be, and I question whether or not the surgeon ever improves very much upon His handiwork when it is as He intended it should be. In the class of cases of which I have made special mention, and they are quite numerous, I am sure you will find it profitable to yourself and very beneficial to your patients, if you will attempt to follow out the method as I have here outlined. As to the technique, it takes perhaps a little more time and care, but it is not any more difficult than the ordinary sub-mucous resection. If while thoroughly fracturing your septal plates, as will rarely happen, you should get your bony structure so badly misplaced that you cannot get a smooth septum, you may then do a complete resection and no harm has been done from attempting to do the operation as I have herein described.

CHRONIC FRONTAL SINUSITIS.

T. W. Moore, Huntington, W. Va. (*Journal A. M. A.*, Nov. 30, 1918), after noticing the various advances that have been made in the treatment of chronic frontal sinusitis, considers that the most important is the operation devised and advocated by Lothrop. Lothrop recommends first the removal of the anterior end of the middle turbinate and the breaking down of the anterior ethmoid cells with a curet, which frequently gives a free opening into the frontal sinus, and ten days or two weeks afterward he uses his radical operation if required. The drainage from this first procedure will alone cause a cure in a large percentage of cases. The radical operation is described in detail. It is done under general anesthesia with a pledget of cotton saturated with a 4 per cent. cocain in epinephrin solution inserted in each nostril. A curved incision about 1 inch in length is made through the eyebrow beginning at the superorbital notch and extending to the nose, the periosteum carefully elevated. "An opening is now chiseled through the bone into one sinus at the naso-orbital angle, or Ewing's point. The sinus is now carefully inspected and any pus, polpi or granulation tissue removed, care being taken to preserve as much of the mucous membrane intact as is possible. A probe is now passed into the naso-frontal duct and used as a guide, while with curet, rasps and burrs, the cells anterior to the naso-frontal duct are broken down, and the mass of dense bone at the root of the nose, formed by the nasal process of the superior maxillary, frontal and nasal bones, is removed. The partition between the sinuses is broken through and removed and the intranasal floor of the second sinus removed, whether it is diseased or not. At the same time the operator takes away the upper portion of the nasal septum, thus making a large passage from the now single sinus into the nose, which may be entered readily from either nostril. The external wound is now closed, without packing, and a pressure bandage applied and left on for twenty-four hours, when a dressing of cotton and collodion is applied and permitted to remain for five or six days, when the stitches are removed." We must never overlook the roentgen-ray pictures of these cases, and Moore does not see the validity of an objection to opening a healthy sinus for increased drainage. It does not or did not become infected in any of his twelve cases.

THE SIGNIFICANCE OF PAIN IN THE EAR.*

By J. H. BARNES, M. D., Enid, Okla.

Pain in the ear being so common and a warning to be on our guard either for an ordinary affliction or a very dangerous ailment, I thought a short paper on this subject would be timely.

I find it very difficult in some cases to locate the source of the pain, and in other cases to relieve the pain when we have diagnosed the case.

I will give only a few of the cases of pain in the ear that are most common and that have given us considerable concern and the cause of the trouble and the treatment of the same.

Furunculosis of the external canal is a very painful disease and often is quite hard to arrest. It is caused by an infection of the canal, often by using some hard instrument in the ear to remove the cerumen or for an itching in the ear. Hair pins and ordinary pins as well as ear spoons are very dangerous instruments to use in the ear. They are a frequent cause of abscess in the external ear.

For the removal of the cerumen in the canal, I will refer you to another paragraph in the study. For the itching of the ear, use a cotton mop made on a tooth pick or some soft wood. The treatment should be to cleanse the canal thoroughly with peroxide on a cotton applicator, then dry thoroughly and wash out with alcohol. Open all well formed abscesses early with a small knife—a cataract knife—then give the patient a solution of boric acid in 50 per cent. alcohol to use in the ear with instructions to churn it back and forth in the ear with a medicine dropper.

Chronic eczema of the canal gives us a great deal of concern when we try to cure these cases. They are often relieved for a short time but soon return as violent as ever, and the patient is often more irritable than the ear seems to you.

The acute form of eczema is easily arrested by mild antiseptics and if treatment is used for a short time there is no further trouble, but when it is allowed to continue until the epidermis is thick and the cerumenous glands are destroyed, then it becomes quite difficult to cure. The cause of this trouble is not well known. In certain conditions of the system, the use of arsenic is indicated to relieve the trouble. Dry infected cerumen and secretions from the middle ear are some of the frequent causes.

The itching and pain becomes almost unbearable at times, fissures are often present which give excruciating pain. The hearing is often bad on account of the swelling and the debris in the canal. The tympanic membrane is often involved in the process causing a loss of hearing.

The best treatment in my hands has been to first cleanse the canal of all the scales and crusts by the use of H_2O_2 on cotton applicators. If the epidermis is rough and thick, apply 5 per cent. nitrate of silver to the canal and let it remain a few days and then repeat the treatment as often as is necessary to get the canal clean and smooth. Apply trichloracetic acid to deep fissures. Keep the canal clean for a few weeks and then apply powdered calomel to the canal or better in persistent cases, a prescription for ointment of ammoniated mercury 5 gr., oxide zinc drachms 1; vaseline drachms ½. If the canal is moist and has small vesicles exuding watery fluid, add to this prescription 5 gr. of salicylic acid. This treatment if persisted in and the canal kept clean will always stop the pain and many times the canal will become normal with its usual amount of cerumen, which is necessary for a complete cure.

Foreign bodies in the ear become quite painful, especially when someone of the family tries to remove a grain of wheat or some object from the ear with a

*Read in Section on Eye, Ear, Nose and Throat, Tulsa, May, 1918.

hair-pin and injures the canal. It soon swells and the secretions of blood and pus will obscure the object so as to make the extraction very difficult.

Small bodies, such as grains of wheat, flies, etc., should be removed by irrigation of warm water, and using a two-ounce syringe.

Flies and bugs that cause great pain should first be killed. The best way is to use chloroform fumes. A small amount of melted vaseline should be poured into the ear so as to protect the ear drum and the skin of the ear from the irritating fumes of the chloroform. Then saturate a small pledget of cotton with chloroform and insert it into the ear. Then put a small piece of dry cotton over it so as to hold the fumes in the ear. In a few minutes the insect is dead. Then it can be picked out or washed out with a syringe.

Hard bodies, such as a bean or small stones, should not be grasped with forceps for they slip off and tend to push the body further into the ear. If the body is large and is pushed past the isthmus into the bony canal, it becomes very difficult to remove it by any method.

A small tenaculum may be used when it is possible to insert it into the body.

Queri's foreign body extractor is a very useful instrument in my hand, especially with small stones. If the patient is a child and will not hold still, give it a few breaths of chloroform before trying to remove the foreign body. The main object in removing all bodies from the ear is to keep from injuring the canal or ear drum.

Impacted cerumen is a very frequent source of annoyance and when it becomes infected it becomes very painful. This is caused by an excess of wax in the ear, by over-stimulation of the cerumenous gland, or by the canal becoming diseased and the wax not being carried off properly. This impaction should always be removed as soon as discovered. There is only one way to remove it and that is by syringing with lukewarm water with a 2-oz. piston syringe. The removal of wax should never be attempted with a spoon or an instrument of any kind. If the wax becomes very hard and dry, use a few drops of camphor oil in the ear for three or four days and have the patient come back when it can be easily removed with a syringe. The camphor oil is 5 gr. of gum camphor to one oz. of liquid petroleum. Five drops three times a day for three days.

In syringing, some precaution may be timely. Do not direct the stream directly into the ear, throw it against one wall so as to follow the wall back behind the impaction and it will be more easily dislogded. Sometimes it will be necessary to press away the impaction from the wall so as to let the stream pass. The canal should be dried thoroughly and camphor oil applied to the canal.

Pain in the middle ear is the first symptom of otitis media. It is called earache by the laity and to them it means but little if the family is not disturbed at night. To the doctor who studies the consequences of middle ear disease, it means a great deal. The pain, though it may be of short duration, is almost unbearable. It is deep seated, lancinating and tearing in character. It is worse at night when patient is in recumbent position.

Sleep is impossible. When coughing or blowing the nose, the pain is often increased. Tenderness is often felt just below the ear between the mastoid and the lower jaw, along the course of the eustachian tube. The pain may continue for several hours before rupture of the ear drum, then the pain is suddenly relieved. This is why we should be very careful about giving opiates in these cases, for the pain is nearly all relieved spontaneously when the drum is opened. If the patient is full of opiates we will easily get opium poisoning.

If the pain continues for twelve hours, we should aid nature by opening the ear drum by a free incision. If the pain is intermittent from twelve to forty-eight hours, it should be opened. Early opening and good free drainage will save the hearing and prevent complications, such as mastoid disease, brain abscess and meningitis.

The indications for opening the ear drum are: Continued or severe pain

bulging ear drum, symptoms of mastoid trouble, great loss of hearing. There will be very little pus when the drum is first opened, blood and serum is usually found. Pus occurs about the second day. The character of pus will depend upon the kind of infection. It is much better for the future of the ear drum and hearing to incise the drum with a sharp knife than to have it rupture, especially after long continued pain, for the rupture tears the drum to such an extent that it heals badly and in some cases not at all.

If pain continues after free drainage and quantities of pus, you have mastoid complications and the treatment should be changed to that of mastoiditis.

The treatment of earache is often satisfactory and the ear drum may never need opening. Either there is no pus or it has drained through the eustachian tubes. The patient should be given calomel, followed with a good free cathartic. The external ear should be cleaned thoroughly of all cerumen or debris with peroxide on cotton applicator. Use 10 per cent. phenol solution and glycerine on a small cylinder of cotton packed into the ear loosely against the ear drum. This is much better than to drop the solution into the ear. The glycerine acts as a hydroscopic and the phenol is an antiseptic as well as an anesthetic.

If the nose or throat is sore, attention should be given to that. Very often we have pain referred to the middle ear from disease or soreness in the naso-pharynx. The ear drum is not red or swollen nor the hearing disturbed in these cases.

Pain that continues in the ear or mastoid for two or three days after the ear drum has been opened well, is a very dangerous symptom. It is an indication to open the mastoid.

If there is tenderness over the mastoid for several days after ear has been drained, the mastoid should be opened. Tenderness over mastoid when ear first begins to discharge will often be relieved by antiphlogistic measures such as heat or cold. Continued cold ice pack to ear for two or three days has been the best treatment in my hands. If this pain should recur after a few days or a week, you will most surely have to open and drain the mastoid.

Some of the most aggravating pains we have in the ear are reflex pains. We have spoken of one pain in the naso-pharynx. We sometimes have very acute pain in the ear from disease in the adenoid or tonsil or ulceration in the pharynx. The condition of the eardrum will usually tell us that it is not in the ear. On examination of the throat we are sometimes able to locate the trouble. Cheesy masses in the adenoid or tonsils will cause this pain at times when the mass becomes very large or impacted and the parts swollen around the impaction. This can be seen by close inspection.

The worst reflex pain that I have had and the hardest to locate has been that from the teeth. The wisdom teeth are the most frequent cause and yet it is very hard to say exactly even with the aid of the X-ray whether to remove the tooth or not. The tooth is often not erupted, and the parts around it are healthy. I had a patient recently who had severe pain in the ear for three days and nights; had not slept. X-ray showed impacted wisdom tooth. The dentist did not want to remove a so badly impacted tooth, so he pulled the one in front. The patient was relieved in a few hours.

I had another patient who had severe pain over the mastoid. No symptoms of mastoiditis except the pain. X-ray showed mastoid clear. A film of the lower molar showed impacted wisdom teeth. After extraction the pain in the mastoid soon cleared up.

Another patient who had pain at times in his ear for a week. No other symptoms of an otitis. Examination of the teeth, found tender molar with a small filling. Had the dentist to remove the filling. He found a piece of broach in the root canal. He was instantly relieved when the broach was removed.

KERATOCONUS.*

By W. T. SALMON, M. D., Oklahoma City, Okla.

Upon no other subject so important as conical cornea is there such a dearth of information to be found both in our text-books and journals. This may be due to the fact these cases are so seldom seen, that the pronounced cases are so easily recognized that argument is dispensed with. The cause is yet undetermined, the treatment disappointing and the many proposed operations attended with poor results.

Demours recorded cases of conical cornea as early as 1747, since which time it has been described by many authors, none of which have furnished a satisfactory explanation as to its cause, neither have the many remedies and various operations met with approval.

Up until 1917 there had been an interval of seventeen years in which this subject had not been considered by the American Medical Association. It is remarkable how few cases have been recorded by the prominent oculists; possibly Dr. Edward Jackson has reported more than has come from any other reliable source. He has recorded forty-seven cases during thirty-five years of practice.

Conical cornea is a deformity in which the apex of the cone becomes thinner and projects at a point while the peripheral portion of the cornea may be flattened, thus rendering a portion myopic, decreasing from apex to the bases which may be hyperopic. The apex is usually located below and at the nasal side of the center of the pupil. The cornea is very thin at the apex and if a probe be applied the tissue will be found to yield readily to the pressure and a rythmic, pulsating movement may be observed. The apex may become opaque and there is danger of a rupture, but in the majority of cases remains stationary.

The conditions under which this process begins are often difficult to determine, as they are rarely seen at the beginning. The patients seek advice for visual troubles, short-sightedness and polyopia. At the beginning and during its progress there will be pain and marked symptoms of asthenopia. The pain may be intensified if an attempt is made to correct the near-sightedness by the use of glasses.

The sight is further impaired by astigmatism which produces a great distortion and confusion of the retinal images. Upon inspection of such an eye there is an appearance of a tear-drop suspended in its center which appears unusually glistening and bright, the profile showing the size and shape of the conicity.

However easy a diagnosis may be made in the pronounced cases a cursory observer may easily overlook a slightly developed case or confuse it with myopia or diagnose it as amblyopia. The opthalmoscope is of great assistance in diagnosing even the slightest cases. The light from the opthalmoscope reflects a bright red in the center of the cornea which gradually becomes dark toward the base. Besides a distortion of the retinal images, a considerable parallax may be observed by moving a convex lens in front of the eye.

Direct inspection with the opthalmoscope is usually unsatisfactory, as no lens will afford a continuous field; the vessels appear distorted and broken, the optic nerve shifts with the point of view and is irregularly elongated. The placedo disc gives striking exhibitions of deformity, which astigmatism is so irregular that the opthalmometer furnishes little valued information and with the skiascope the most varied condition of refraction is found to exist close together, in the center is myopia, which quickly changes to hypermetropia.

This process usually begins between the ages of ten and twenty-five, although it may set up much later or may be congenital; there have been instances in which it has occurred in more than one member of the same family.

---

*Prepared for Section on Eye, Ear, Nose and Throat, Tulsa, May, 1918.

There has been much controversy as to whether the disease was caused by increased intra-ocular pressure or interference with the corneal nutrition. It is difficult to understand how a close observer would attribute it to increased tension, as all cases of uncomplicated conical cornea show a decreased tension. Any condition that might have previously existed to increase the tension is only a speculative opinion without evidence for a premises. The theory of anatomical peculiarity seems to more rationally account for the thinning and bulging. There is an actual anatomical change in the early stage of the process as evidenced by lack of sensitiveness in the cornea.

Innumerable remedies have been proposed for the relief and cure of conical cornea, all of which have been disappointing.

Sir W. Adams removed the lens, and afterward advised breaking up the crystalline lens by needling. Tyrell was the first to make an artificial pupil and advised a peripheral iridectomy. Critchett went one better by allowing the iris to prolapse and tying a ligature around it, thus drawing the pupil to one side. Graefe caused ulceration by shaving off the surface of the apex and then cauterizing with nitrate of silver. Hirschburg advised touching the apex with actual cautery, which procedure has been variously modified by the number of radiating incisions made. L. Webster Fox combines or follows the cauterization with an iridectomy and tattooing the scar. Myer Wiener advocates an excision of a segment of the corneal tissue near the periphery and suturing the wound. The object of nearly all these operations is a reinforcement of the weakened cornea by cicatricial tissue. In other words, the best efforts are the results of an artificial keratitis.

Up to the time of the two cases of which this is a report the prognosis was so universally bad I dismissed the few cases, that sought my advice, without hope of relief from the unfortunate condition.

It is owing to the fact that I received two cases in such a short space of time that I am able to make this report. The first case I sent away with the request that she come to see me again at some future date. I immediately began a review of the literature in the hope that I might find something that would enable me to be of benefit to my patient. As stated in the beginning of this paper, I was disappointed. However, at this time there appeared an article in the *Ophthalmic Record*, by Dr. E. R. Carpenter, which was the only resaonable and hopeful article I was able to find. He advised the use of the high frequency spark applied often enough to produce an interstitial keratitis.

About the time I read this interesting article my second case presented itself. I was fortunate in having an intelligent patient to whom I explained the nature of her trouble and the application of the high frequency spark, to which she readily consented, as any condition was preferable to the present one.

It will be interesting to note the ocular conditions of six other members of the first patient's family treated, as mypoia is thought to play an important role as the cause of conical cornea.

The first of her relatives to consult me was an uncle, G. W. S., Jan. 9th, 1902. Diagnosis: Myopia; R. E. –3.50, L. E. –4.25, comb. –0.25, ax. 180. This patient was very near-sighted and having an inventive mind he suffered much pain from the continued use of his eyes. I saw him at various times during the interval of Jan. 9th, 1902, to 1916, when he died of Bright's disease. Sept. 9th, 1903, Miss Pearl T., sister of patient, consulted me. Diagnosis: Myopia, and the following prescription given: R. E. –1.25, L. E. –1.00. In May, 1908, she consulted me for pain in her eyes. I changed the lenses to R. E. –1.00, comb. –1.00, ax. 180, L. E. –1.00, comb. –0.50, ax. 180, which she is still wearing with comfort. Oct. 10th, 1909, Mrs. T., mother of patient, the following correction: R. E. plus 1.25, L. E. plus 1.25, reading plus 3 in each eye. F. T., her brother, May 25th, 1915. Diagnosis: Myopia; R. E. –3.25, L. E. –3.25. August 17th, 1916, K. S., son of G. W. S. and first cousin to patient. Diagnosis: Myopia; R. E. –2.25, comb. 0.25, ax. 180, L. E. –2.00, comb. –0.50, ax. 180. The latter patient was rejected from the army on account of his eyes. April 25th, 1916, J. S., brother of last patient. Diagnosis: Myopia; R. E. –0.50, ax. 180, L. E. –0.50, ax. 10.

Miss F. T., age 23, Feb. 8, 1915. The cornea of the right eye was thoroughly cocainized and the effluve from a needle point of a high frequency current applied, allowing the spark to strike the conical portion only, just for a second. This was repeated four times and notwithstanding I had instructed that the point not come in contact with the cornea, the warning was not heeded and quite a burn was made on this cornea which lasted for several months but is now only slightly perceptible.

There was considerable reaction and a hypodermic of morphine and atropine was given and the patient instructed to go to bed and apply ice compresses. As was expected, I found my patient suffering intensely next morning, but at the end of two and a half days she was resting easy. Three weeks later I repeated the treatment, managing the point myself so the cornea would not be injured. And again at the end of two months from the second treatment I made the application to the same eye. In the end the results were so beneficial the patient came back Dec. 4, 1915, to have the other eye treated in the same way which, however, was treated only once. March 18, 1916, I examined her eyes and gave the following lenses: R. E. –2.00, ax. 120, L. E. –0.50, comb. cyl. –2.00, ax. 10.

As previously stated, this patient was a teacher of expression and at the time I first saw her, her vision was so poor that she had to give up her position. The vision in the right eye at this time was a little better than counting fingers which was improved with the above lens to 20-100. At the time these lenses were prescribed there was a considerable scar on the right eye caused as mentioned above, and there was much disappointment. This, however, cleared away with fine results. In the left eye there was at first a vision of 20-100 which was improved to 20-40. The results were so satisfactory that she resumed her former occupation as teacher.

In the meantime I had written to my first patient, Miss M. S., requesting an interview at my office. March 16, 1916, her vision in left eye was 20-200, right eye 20-60. On this date I applied the high frequency spark to her left eye and repeated it April 10th and again June 2nd. August 2nd the right eye received one treatment. Sept. 7th I prescribed the following glasses: R. E. –1.75, ax. 135, which gave a vision 20-40; left eye –0.75, combined with cyl. –2.50, ax. 35, which gave a vision of 20-80.

This case moved into the state of Texas in a short time after the above examination was made and I have not been able to learn her address. I have a patient now in the western portion of the state that I am waiting with much expectation to apply the above treatment.

Just here I would like to have this report terminate, but in response to a request for another examination, the first case, Miss F. T., came to my office May 6th and upon examination I found that the great benefit that she had derived was not permanent. The right vision was 20-200 and the left 20-60. This was quite a disappointment but as the immediate effect was so beneficial I am in hopes that the high frequency spark will be the stepping-stone to a permanent cure for this unfortunate condition.

FAMILIAL MACULAR DEGENERATION.

Since its first observation and reporting by R. D. Batten in 1897, a few cases of this condition have been observed and two new ones of the type with dementia are reported by H. S. Clark, Minneapolis (*Journal A. M. A.*, Nov. 30, 1918). It is characterized by symmetrical affections in the two eyes consisting of dark spots in the macula and pallor of the optic nerve heads. It belongs to the type of degenerative diseases such as the amaurotic family idiocy of Tay and Sachs. Combined with this type of macular degeneration they find cases of dementia, the maculocerebral type, such as the cases here described. Summarizing the findings in the cases of macular degeneration with dementia they have been able to form a definite syndrome, though some cases vary in details. Clark is inclined to regard macular degeneration with and macular degeneration without dementia as the same disease. Etiology is unknown and syphilis is strikingly absent.

EYE STRAIN AS A FACTOR IN GASTRIC NEUROSES.*

By ALONZO C. McFARLING, M. D., Shawnee, Okla.

A neurosis may be defined as a functional disturbance of the nervous system dependent upon no discoverable lesion.

The etiology of neuroses in general may be ascribed to the various forms of irritation, either central or peripheral in origin, which are capable of deranging or confusing the normal co-ordination of those central nervous impulses which actuate and control the physiological processes of the body. Of the numerous examples of such irritation which may be cited, eye strain is one which figures largely in the production of neuroses in general and in some cases may be the exciting cause of a gastric neurosis.

In discussing the important role of eye strain in the etiology of gastric neuroses, it is not my purpose to delineate the various forms of heterophoria or refractive errors upon which eye strain is consequent, nor to describe at length the clinical manifestations of such gastric disturbances as may originate therefrom, but I shall attempt to discover the manner in which eye strain may operate through the medium of the brain, to disturb the functions of an organ so remote from the eye as is the stomach.

Since the brain, the great central station of the nervous system, whose complex function serves not only to generate and control the working forces of the body, but spans the chasm which would otherwise separate the spiritual from the physical aspect of the mind, and is the clearing house through which every organ of the body must receive its impulses, I shall therefore review briefly the anatomical and physiological characteristics of the nervous and mental processes by which we perceive those of the forces and forms of energy in the world with which we are cognizant, to-wit: sensation, perception, association, concentration and inhibition.

The fundamental element or unit of the nervous tissue is the neuron, a cell with many processes projecting from it, some short and branching, one, or sometimes two of which often extend a long way and usually becomes the axon of a medullated nerve fiber, and which in some cases gives off a few collateral branches. Both axons and dendrons are composed of delicate fibrillae which pass directly without interruption through the cell body. Of these neurons, varying in form and size and supported by the delicate frame work of the neuroglia, the entire nervous system is composed.

The fundamental physiological characteristics of the nervous tissues are excitability and transmission, the power of receiving an excitation and not only transmitting it from one end of the neuron to the other, but also, of transmitting it to other neurons with which the first is in anatomical and physiological relationship. By its dendrons the nerve cell receives nervous impulses and by its axons it sends out its own impulses. There is experimental evidence which tends to prove that the activity of a nerve cell is the result of chemical reactions, while the conduction along nerve fibers is mainly a physiological process. The transmission of energy from one neuron to another in contact with it seems to depend upon differences in the tension of this energy in the two neurons. The cellular activity is, therefore easily exhausted, while the activity of the nerve fiber is not easily exhausted. Thus it will be seen that a nerve fiber may contiune to transmit impulses received from other cells long after its own cellular exhaustion would have precluded the possibility of modification of such impulse by inhibition or promotion.

When the various impulses have passed along the various tracts and have traversed and been interrupted by several masses of gray matter, they reach the

*Read in Section on Eye, Ear, Nose and Throat, Tulsa, May, 1918.

sensory area of the cerebral cortex, and there give rise to a new form of energy called sensation. That is to say, a physical force is converted in a terminal organ into nervous energy, and as such, having traversed the sensory tracts, reaches the cerebral cortex. It is there transmitted into a new form of energy, as for instance the sensation of light which takes place in the brain—not the eye— and has no similarity to the indulations of either from which it formally originates, and it may indeed be caused not only by these, but also may originate in perfect darkness—from mechanical irritation of the eye, or from the optic nerve. And the same is true of other nerves, thus: if we mechanically irritate the auditory nerve, the impulse will be interpreted in the brain as sound; or if the impulse be given to a motor nerve, we may likewise expect a muscular contraction.

Sensation is the simplest manifestation of consciousness or cognition, and like electricity, requires for its production a certain degree of intensity of the nervous impulses; below this point of intensity the cortex may be in activity, but sensation will not result—the activity will be sub-conscious. A series of these slight impulses may by summation cause sensation. There is, therefore, a minimum of intensity necessary for sensation, just as electricity passing through a wire must have a certain intensity before the wire glows, and light is produced. There is also a maximum, beyond which no matter how great the irritation, there is no increase in sensation, but rather a diminution from exhaustion of the nerve cells. Between this minimum and maximum point, sensibility increases or diminishes by little steps in definite ratio to the stimulus.

Sensation is thus a special individual force produced in the cerebral cortex, and which has its special individual characteristics. A complex manifestation of this force constitutes consciousness and personality. Sensation and all other forms of mental activity are absolutley dependent upon a fairly healthy cerebral cortex, and a fairly abundant blood supply. If the cortex be destroyed in large part, or the blood supply be cut off, then sensation, perception, memory, thought, ethics, association of ideas, etc., are all partially or entirely suspended until such time as the normal blood supply be re-established.

This brings us to the consideration of perceptions and concepts, of which, for the purpose of this paper, it will suffice to say that a perception consists of a combination of sensations, which are received from various sensory nerves and organs, but all of which proceed, usually simultaneously, from the same external object.

Passing to a study of association, we recall the essential physiological characteristics of nervous tissue which are: (1) Its excitability, its reaction to stimulation by the discharge of nervous energy stored within it; and (2) Its transmissibility. This energy when produced does not long remain localized, but tends to pass along nerve fibers throughout its own neuron, and to other neurons. The channels along which it will pass depend upon the anatomical arrangement of the fibers. In consequence of heredity and evolution, certain channels are easier for the passing of this nervous impulse than others. This is especially true of certain reflexes which are present at birth, such as breathing, etc.

When a perception occurs impulses radiate out along the association fibers from that portion of the cortex from which it is produced. If at the same time another perception takes place in another portion of the cortex, the association fibers connecting these two portions of the cortex, being acted upon at the same time, will convey impulses more readily than the other association fibers. The longer and more frequently the association fibers are traversed by these impulses, the better conductors do they become, and these two perceptions become more and more easily excited the one from the other. The activity in the cortex does not long persist, so that when the associated idea is in consciousness, the original perception which awoke it is already, or soon will be, subconscious. Yet they are so firmly associated together, that in the future when one enters into activity, it may excite the other.

At this juncture let us review the more salient features of the process known

as concentration. It seems to be a general law in the physiology of the nervous system that when there is a strong activity in one part, the activity of the rest of the nervous system is inhibited. Thus reflex activity can be inhibited by strong pain, and the reflex activity of the spinal cord is more or less inhibited when the brain is in activity. In the brain itself, when a portion of the cortex, or a group of nerve cells is in activity, the activity of the other cortical areas, as well as that of the lower centers, is inhibited. The stronger the local activity, the greater and more extensive will be the general inhibition, and the more this active portion will have a free and uninterrupted field. Naturally, consciousness remains limited to this strong activity for a long time. When an unusual or very vivid perception is in consciousness, it occupies the center of the stage. Consciousness is limited to this one vivid perception or idea and its associations, so that milder activities occurring in the cortex at the same time, which should produce ordinarily, perceptions and associations, remain sub-conscious. This phenomenon is called concentration, and is a very important function in nervous physiology, since the laws governing the same are applicable not only to consciousness, but to the subconscious processes as well, many of which have to do with the regulation of those important physiological processes and functions, whose sum total constitute the physical aspect of the phenomenon we call life.

Before pursuing further and in connection with our study of inhibition, it will be remembered that our study of sensation discloses the fact that when a perception or sensation occurs at a given point in the cortex, the energy or impulse does not long remain localized, but travels along the fibers of its own neuron, and by the association fibers to other neurons. Hence, it will be seen that when a nerve cell, or cell unit, in sending out impulses to an organ of the body, or to a muscle, or group of muscles, over whose functions it is its duty to preside, does not possess the ability to limit such impulse to that particular muscle or organ for which it was normally intended; but on the other hand unavoidably transmits a portion of such impulse to those nerve cells, or cell units which are in anatomical and physiological relationship with it. This law of the transmission of impulses is an invariable one, which fact does not preclude the possibility of an impulse radiating from a given point in the cerebral cortex, to a contiguous cell or cell unit, which impulse, if elaborated and promoted by the synergic action of the contiguous cell, would be antagonistic or detrimental to the normal function of that muscle, or organ, over which such contiguous cell unit presides. It does not necessarily follow, however, that such association impulse would be promoted by the contiguous cell, but instead, would in the normal physiological course of events, be neutralized according to this same law of the transmission of impulses, by other impulses generated and sent out by the contiguous cell in the regular performance of its duty. This constitutes what we call inhibition, and may in some degree be likened unto the rights of citizenship under the laws of a democracy whose constitution accords to every citizen the right to follow the bent of his own mind in the pursuit of happiness and the acquisition of wealth so long as such pursuits do not interfere with the rights of others. Thus it may be seen that if two cell units in the cortex in anatomical relationship with each other be in simultaneous activity, their respective association impulses will, if they be of the same degree of intensity, exactly neutralize each other. But, if the impulse originating in one cell unit be abnormally strong, then that portion of energy which travels by the association fibers will be proportionately stronger, and will override the weaker associational impulse which it may meet, and will, therefore, succeed in reaching the other cell unit, and there register itself as a distinct impulse.

Now then, let us assume that the cell unit, from which this stronger impulse originates, is the organization of cells which controls the physiological functions of the eyes. Let us assume further, the existence of a muscular imbalance, or a refractive error, or both, in a degree approaching the maximum amount which can be corrected by the ocular muscles. It is a well known fact that the brain will not tolerate anything in such a case, save perfect, single, binocular vision. It is

self-evident, then, that the exaggerated muscular contractions necessary to correct this visual defect must necessarily be actuated and maintained by correspondingly exaggerated impulses from the brain centers which control the musculature of the eyes.

It is also evident that by reason of this greater activity, more blood will be attracted to these oculomotor centers than would be demanded for normal work, in consequence of which there will be a diminution of the normal blood supply of the adjacent tissues and a proportionate reduction in the inhibitive influence which these adjacent centers would normally exercise toward the excited oculomotor centers. It is equally obvious that these exaggerated motor impulses, radiating in rapid succession from the oculo-motor centers, will, by association, reach and register themselves upon all the adjacent cells with which they are in anatomical and physiological relationship.

Since the gray matter possesses the inherent faculty of summation, it necessarily follows that when these impulses have been repeated a sufficient number of times, sensation will result—the nature of which will be determined in each instance by the normal function of the cell so affected. Thus, in case a motor nerve cell were so influenced, the result would be an involuntary contraction of the muscle which it supplies; if a sensory cell, pain may be excited; if a cell unit controlling a gland or organ, then we may expect some alteration in the nature or amount of the secretion of the gland, or a perversion of the function of the organ so supplied.

In view of the fact that the intensity of a sensation occurring at a given point is in a direct ratio to the stimulus, we may safely assume the existence of a ratio between the intensity of the sensation and the impulses which may go out from the central cell receiving the sensation.

Hence, if the exaggerated impulses radiating from the oculo-motor centers in their exaggerated effort at correcting the visual defects assumed in our hypothetical case be capable of transmission by association to all the adjacent cells with which they are in relationship, thus confusing and causing them to send out impulses, at variance with their normal functions, we may likewise expect their confusion and excitement to spread to still other cells.

Since the incentive to perfect vision is absolutely constant in the brain, and since this state of confusion and excitement does not depend upon the intensity of one impulse or sensation, but rather upon their frequent repetition over a long period of time, we may safely assume the possibility and probability of this excitement spreading from cell to cell until the entire working forces of the brain would be thrown into a functional discord. In consequence of this incoordination of the working forces of the brain which control and regulate the vital functions incident to life, will necessarily follow the incoordination of the functions themselves.

By way of condensing and summing up the foregoing arguments, we may conclude: First, the nerve centers which control the normal functions of the body exercise a normal inhibitive influence toward each other, which eventuates in the proper co-ordination of these functions; and second, any form of irritation, either central or peripheral in origin, whose intensity is of a degree above the minimum required for sensation in the particular cell involved, if sufficiently prolonged will derange the normal inhibition of the cells, as a result of which the impulses radiating from a cell subjected to such irritation, being of a much higher degree of intensity than normally required, will be super-imposed upon all the cells with which that cell is in anatomical and physiological relationship.

If at this point we recall the fact that the ocular muscles derive their nerve supply from the third, fourth and sixth cranial nerves, while the stomach is supplied by the pneumogastric nerve, all of which have their origin in nuclei situated beneath the aqueduct of sylvius in the floor of the fourth ventricle, we may in the light of the foregoing deductions reasonably conclude that in this manner eye strain, when present, may be instrumental in the production of, and in some cases may be the exciting cause of, a gastric neurosis.

JOURNAL OF THE OKLAHOMA STATE MEDICAL ASSOCIATION

VOLUME XII MUSKOGEE, OKLA., JANUARY, 1919 NUMBER 1

PUBLISHED MONTHLY AT MUSKOGEE, OKLA., UNDER DIRECTION OF THE COUNCIL

DR. CLAUDE A. THOMPSON, EDITOR-IN-CHIEF

ENTERED AT THE POST OFFICE AT MUSKOGEE, OKLAHOMA, AS SECOND CLASS MAIL MATTER, JULY 28, 1912

THIS IS THE OFFICIAL JOURNAL OF THE OKLAHOMA STATE MEDICAL ASSOCIATION. ALL COMMUNICATIONS SHOULD BE ADDRESSED TO THE JOURNAL OF THE OKLAHOMA STATE MEDICAL ASSSOCIATION, 308 SURETY BUILDING, MUSKOGEE, OKLAHOMA.

The editorial department is not responsible for the opinions expressed in the original articles of contributors.

Reprints of original articles will be supplied at actual cost, provided request for them is attached to manuscript or made in sufficient time before publication.

Articles sent this Journal for publication and all those read at the annual meetings of the State Association are the sole property of this Journal. The Journal relies on each individual contributor's strict adherence to this well-known rule of medical journalism. In the event an article sent this Journal for publication is published before appearance in the Journal, the manuscript will be returned to the writer.

Failure to receive the Journal should call for immediate notification of the editor, 307-8 Surety Building, Muskogee, Okla

Local news of possible interest to the medical profession, notes on removals, changes in address, deaths and weddings will be gratefully received.

Advertising of articles, drugs or compounds unapproved by the Council on Pharmacy of the A. M. A. will not be accepted.

Advertising rates will be supplied on application. It is suggested that wherever possible members of the State Association should patronize our advertisers in preference to others as a matter of fair reciprocity.

EDITORIAL

"WHEN JOHNNY COMES MARCHING HOME."

In the next few weeks many scores of Oklahoma physicians will return to the homes they left to enter the Army as volunteers to take up the necessary work of whipping into shape the physical development and improvement of the men who comprised our army.

It goes without saying that most of them will be sincerely glad to get back to the friends and life work they left behind them. The spontaneous answer of nearly thirty-five thousand American physicians to war service needs no comment as pointing to the calibre and ideals of the American doctor. No comment is needed to call the attention of the thinking and informed public to the fact that he was nearer "Preparedness" than any other branch of the army, that he mostly fitted into his assignment as comfortably and smoothly as a kind old shoe. All of this demonstrating his worth as a citizen of the greatest nation and his value to the people from whence he sprang. Clouds do have silver linings and from what is undeniably bad there often springs some good. These men, many of them, come home knowing more about system, appreciating more than ever otherwise would have been possible the value of promptness, two elements often utterly absent in our doctors, which will fit them better for the future. Many of them will come home better physicians than before for the reason that the advantages of assignment to special work along technical lines was given them and they were thrown into intimate contact with our best pacemakers. True, many of them have had little to do, and it is natural that they will have their "mouthings" over the fact that they were sent to some cantonment instead of right on over as they expected and proudly thought and announced on leaving home for the "front." But all could not go, some were needed here, others wholly unfitted for foreign service while they could do good work at home.

Two facts should be borne in mind. No returning physician should be put to the pain and injustice of realizing that in his absence his place has been usurped by some other physician. As far as possible his patients should at least be give n

every opportunity—and in the best of good faith—to know that he has returned, that he left as a rule at a sacrifice, that unlike every other branch of the service men could not be "drafted" to supply the need he filled, so be it he stepped into the breach without much urging, leaving at home to others the accumulation of wealth and the enjoyment of comfortable homes.

We have heard much lately of doctors' "trusts." There never was one, but now would be a good time to accentuate to the braying asses who assert there is a trust, the real worth and indispensibility of the doctor to good, safe citizenship. These gentry who lurk around our legislative halls and make slanderous and unsupported statements about the medical profession should now be told where to head in, and while the enforcement of the telling with a good strong, right, military left hook to the mouth is not considered good form, we believe that when the stupendous and otherwise unavailable services rendered by our profession is shown the people, they will appreciate that ours is not necessarily a pacifist profession and will applaud the means to the proper end.

Suppose we make it our business in the next few months to see that our returning doctor is treated squarely, and that our profession be accorded its proper place, not as compensation for what has been done—we will do that and more again when necessary—but by reason of right and common sense.

PERSONAL AND GENERAL NEWS

Dr. E. H. Troy, Wilburton, was reported seriously ill in December.

Dr. R. E. Weller, Pawnee, writes an interesting letter to his friends from Hakodate, Japan.

Captain F. M. Sanger, M. C., Oklahoma City, has been discharged and returned to his home.

Dr. H. W. Doty, Watonga, has received his discharge from the army and returned to his location.

Dr. C. A. Hess, Idabel, received a German helmet from Dr. L. H. Hill who is with the A. E. F. in Germany.

Captain S. J. Fryer, Muskogee, visited his old home in December, while on leave from Camp Sheridan, Ala.

Dr. T. J. Colley, Hominy, underwent an operation in Oklahoma City recently for the reduction of a fracture of the arm.

Dr. Thos. T. Clohessy, formerly of Berlin, has been discharged from army service at Ft. Riley and will probably locate in Sayre.

Dr. E. T. Butler, a negro physician of Muskogee, was given a life sentence by the jury which tried him for murdering another negro physician, Dr. J. M. Davis.

On Duty Overseas. The Journal is advised that Drs. Walter W. Wells, Horace Reed and J. H. Maxwell reached France in November. It is not stated if they know when they are to return.

Dr. C. R. Hume, Anadarko, received news in November of the safe arrival in France of his son, Dr. R. R. Hume, Minco. Dr. Hume was detached from his command and delayed by reason of influenza.

Dr. Millington Smith, Oklahoma City, spent a month hunting in Southern Texas during November and December, incidentally attempting to regain much lost vitality from an attack of influenza.

Dr. J. T. Martin, city physician, Oklahoma City, secured several hundred doses of influenza vaccine on his trip to Chicago to attend the Health conference and placed the product at the disposal of physicians in December.

Drs. H. A. Lile and T. A. Rhodes, Cherokee, advise that they expect to be released from army duty soon and will return to open the Cherokee Hospital. Both are captains and stationed at Camps McArthur and Funston, respectively.

Drs. LeRoy Long, E. S. Ferguson, S. R. Cunningham, L. J. Moorman and J. F. Kuhn have been appointed an advisory committee to assist Dr. J. T. Martin in handling the health situation of Oklahoma City. Drs. N. E. Lawson and R. S. McCabe were named as assistant city physicians.

Dr. E. F. Lovejoy, Oklahoma City, was sentenced to 30 days in jail and a fine of $500.00 by an Oklahoma County jury. His attorneys gave notice of appeal. He was charged with causing the death of a young woman by the performance of a criminal operation. Verily the ways of our "Peers" are past understanding.

Dr. J. T. Martin, Oklahoma City, newly appointed Superintendent of Health, fully agrees with Commissioner of Public Safety, Mike Donnelly, that kissing is a fruitful source of spreading any contagion, "particularly Spanish Influenza;" but the sage of medicine, though much younger than "Mike," observes "What's the use—nobody will quit kissing."

DR. D. E. WILSON.

Dr. D. E. Wilson, Elmer, one of Jackson County's oldest physicians, died at his home November 29, 1918, from influenza, after an illness of eight days. Dr. Bob Wilson, his son, was with him at the time of death. Dr. Wilson was born in Marion County, Arkansas, May 4, 1849, moving to Oklahoma with his family in 1888, homesteading a farm a few miles from Hess where he practiced until his removal to Elmer a few years ago. He leaves a large number of relatives and behind him the reputation of a man who will be missed as one of his country's best citizens and a prince among men.

DR. ANDREW L. WAGONER.

Dr. Andrew L. Wagoner, Hobart, died at his home December 26th from cerebral hemorrhage after an illness of only a few hours.

Oklahoma loses a splendid man and physician by the demise of Doctor Wagoner. He had the rare attribute of always fearlessly deprecating shams and smallness wherever he encountered them and stood for high and ethical ideals in medicine.

He was born in 1868, coming to Oklahoma and locating at Hobart in 1908, where he had lived and practiced continuously since. Since the war he had been Chairman of the Local Board for Kiowa County and rendered unceasing labor to his country.

Oklahoma Medical Officers returning. The Journal is in receipt of the information that the following medical officers are returning to their homes by reason of discharge from the Army: R. R. Culbertson, Maud; A. S. Graydon, Idabel; H. A. Lile, Cherokee; T. A. Rhodes, Cherokee; J. C. Matheny, Lindsay; J. L. Fortson, Tecumseh; J. M. Nieweg, Duncan; H. W. Doty, Watonga; Thos. T. Clohessy, Berlin; Captain F. M. Sanger, Oklahoma City; Major A. L. Blesh, Oklahoma City; Captain A. L. Guthrie, Oklahoma City; Captain F. E. Warterfield, Oklahoma City; Captain G. A. Wall, Tulsa; Lieut. R. A. Douglas, Tulsa; Lieut. V. L. McPherson, Boswell; Lieut. W. A. Moreland, McCurtain; Captain Benton Lovelady, Guthrie; Captain D. M. Lawson, Nowata; Lieut. P. B. Myers, Apache; Lieut. Edw. Abernathy, Altus; Lieut. J. C. Luster, Davis; Captain J. H. Scott, Shawnee; Lieut. H. O. Bailey, Sulphur; Lieut. D. F. Coldiron, Perry; Lieut. S. H. Landrum, Altus; Lieut. E. L. Milligan, Geary.

Attorney General Freeling, in an opinion to Senator E. M. Kerr of Muskogee who is seeking means to enact legislation preventing the duplication of effort in public health matters where cities and counties are jointly concerned, advises that the legislature may not legally enact a law taking from cities the right to appoint and provide for their own health officers; that such a right is a constitutional one in Oklahoma and therefore not reviewable by the legislature. He holds, however, that the lawmakers may pass an act requiring to the minutest detail any reasonable services from employes of cities, specifying every duty usually required of health officers.

Tulsa County Medical Society elected 1919 officers December 16, as follows: President, Dr. G. A. Wall, who has just returned from Army service at Camp McArthur; O. F. Beasley, vice-president, A. W. Pigford, secretary, who is still in the army. The delegates are Drs. H. D. Murdock, retiring president, S. De Zell Hawley and J. Walter Beyer.

Pontotoc County Medical Society elected 1919 officers as follows: President, L. M. Overton, Fitzhugh; vice-president, B. F. Sullivan, Ada; secretary, S. P. Ross, Ada; Drs. C. L. Orr, W. D. Faust, Ada, and Fred Harrison, Stonewall, were selected as censors.

Dr. L. S. Willour, Major in the Medical Corps, stationed in France, has charge of the surgical work of a large hospital, getting there on time to participate in the final cleaning up and care of the casualties. He hopes to be home soon.

Lieutenant Frank H. McGregor, Mangum, who we noted some time ago had been decorated for distinguished bravery in action, has been promoted to a Captaincy. He is with the British forces in Flanders.

Dr. J. M. Alford, Oklahoma City, Captain, M. C., stationed at Camp Beauregard, was reported seriously ill in December.

CORRESPONDENCE

FROM CAPT. J. HOY SANFORD.

Camp Custer, Mich., Saturday, Dec. 28, 1918.

My dear Dr. Thompson:

If it is customary for the doctors in the service to send in their dues for the coming year, please let me know and I will forward the amount to you. I am located at Custer and have been for the last

nine months. I was called for overseas on three eifferent occasions, but was held up each time, can you beat it? I have been Chief of the G. U. service here for the last few months and from the looks of things I will be here for some little time to come. Rumor is going around that I am to be sent to some big reconstruction hospital as Chief of the G. U. service, but there is nothing authentic. Have been doing some very interesting work here and gained a most wonderful experience. I personally do all of the bladder and kidney work and we make the following routine examination of every urological case: Cystoscopy, ureteral catheterization with x-ray catheters, examination of the catheterized specimen, x-ray with the catheters in situ, distention of the renal pelvis with opaque fluid (using 25 per cent. sodium bromide with success), renal functional test, and where indicated renal pelvic lavage. You can see that we give every case a pretty thorough examination. I have three doctors working in my service and we have things well systematized. Capt. Eisendrath of Chicago is here and is certainly a fine surgeon. He was talking of you to me some time ago and I told him I knew you very well. He will most probably be sent to some big reconstruction hospital as chief of the surgical service. I am anxious to return to my practice, but I suppose I will return when the Government sees fit. I have picked up physically in the Army and have been repaid for my sacrifice professionally as I feel like I have been wonderfully benefitted. I like the Army and were I single I surely would select the Army for the future. Give my best regards to all of the "Docs" and tell them some day I will be back.

Trusting to hear from you in the near future and hoping that you are well and happy and busy, I remain,

Fraternally yours,

Capt. J. H. Sanford, M. C.

MISCELLANEOUS

STERILIZING THE NASOPHARYNX.

Evidence is accumulating of the value of Dakin's antiseptics for sterilizing the throat and nose of persons exposed or suffering from Spanish influenza and other diseases transmitted by the secretions of the upper respiratory tract. The simplest and most convenient of these remedies to use is Chlorazene, which is available in tablet form for the preparation of aqueous solutions, which may be used for spraying or gargling. Such solutions are convenient, can be made up by anyone with ordinary ¡ntelligence, and are exceedingly efficient.

When possible the aqueous solution should be supplemented by the oil spray of Dichloramine-T dissolved in Chlorcosane, a 1- to 2-per cent. solution being employed for this purpose. This should be applied at least twice daily, where possible by the physician himself or by the nurse. The use of Dichloramine-T assures prolonged contact with the mucous membrane of an exceedingly powerful germicide, which can be used without danger to the patient. The extensive experimental work conducted by The Abbott Laboratories, preliminary to placing the Dakin products at the disposal of American physicians, seems to be justified by the splendid results which are being obtained.

WARIZEL!

A friend in the War Risk Insurance Department, in Washington, sends Luke a few of the questions received by the department and some of the answers received to queries sent out by the Department. Here they are:

"I ain't got no book lurnin', and am writin' for inflamation."

"I have a four-months-old babay and he is my only support.

"I am his wife and only air."

"I received your insurance polish."

"I have a child seven months old and she is a baby and can't work."

"Caring to my condition which I haven't walked in 3 months from a broke leg whose number is 975."

"I was discharged from the army as I have goiter which I was sent home on."

"Both sides of our parents are old and poor."

"Dear Mr. Wilson: I have already written to Mr. Headquarters and got no reply. Now if I don't hear from you I will write to Uncle Sam himself."

"My son is in the middle of the Mediterranean Sea."

"I have another war baby. How much do I get."

"Please return my marriage certificate. My baby hassent eaten any for two days."

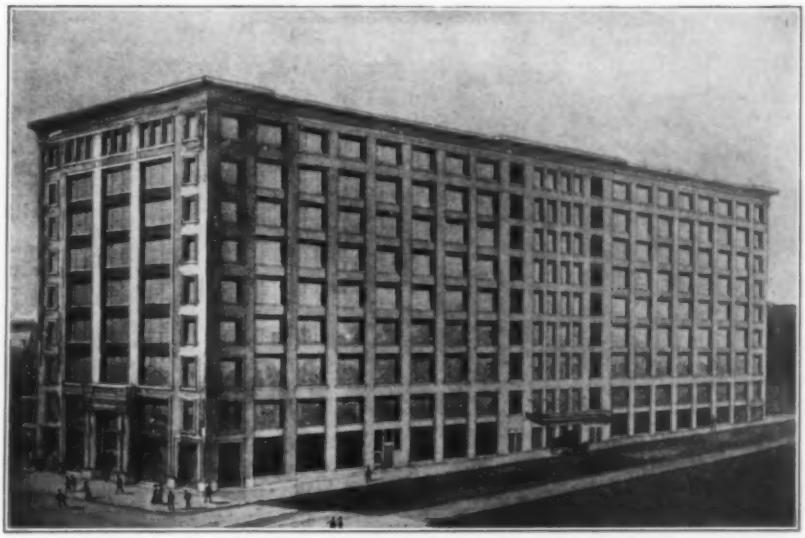
"I am a window with a wife and four children."

"I do not know my husband has a middle name and if he has I don't believe it is 'None.' "

"I need his assisatcne to keep me in closed."

"Please send me a wifes form."

"I have been in bed for 13 years with one doctor and I intend to get another."



NEW HOME OF THE H. K. MULFORD COMPANY.

Having outgrown their present Pharmaceutical Laboratories, the H. K. Mulford Company have purchased and will soon occupy the modern building, located at Broad, Wallace and Fifteenth Streets, on Philadelphia's main thoroughfare, six blocks north from City Hall. The building is of modern construction, being fireproof throughout, of steel, concrete and stone, nine stories in height and has a total floor space of nearly ten acres.

All equipment is of the latest type used in building construction and includes four electric passenger elevators, four electric freight elevators, with a capacity of twelve tons; four enclosed fire towers for the safety of the occupants; electric generating machine; mail chutes; artesian wells, etc.

The structure will be further equipped with modern labor-saving devices and when occupied will house the general offices and the drug, chemical and pharmaceutical departments which are now distributed over a number of buildings in several locations.

This will be the largest building in the world devoted exclusively to the production of medicinal products. It will be a worthy peer of the Mulford Biological Laboratories, located at Glenolden, Pa., which are recognized as the largest and most complete in existence.

The rapidly increasing business at home and abroad has necessitated this expansion and the new premises will enable the H. K. Mulford Company to fulfill the long cherished aim of making the *Mulford Standard of Service* equal the *Mulford Standard of Quality*.

CAMOUFLAGE.

The call for volunteers in the medical service of the Army has brought out some stimulating examples of courage and patriotic loyalty; but it has also uncovered some cowards and unpatriotic slackers who are beneath the contempt of decent folk.

For instance: A man, so called, of the age of forty, able bodied and well equipped for good service, insofar as his preparation for the practice of medicine is concerned, with no dependents and with the medical needs of his community well provided for by reason of the presence of a good physician who cannot go into service, signs his application for membership in the Medical Service Corps and makes special mention of the fact that he prefers overseas service. As soon as his blank has been forwarded to Washington, he slyly proceeds to secure the services of several girls to circulate a petition among the people, begging the Surgeon-General to not deprive the community of the benefit of his invaluable and indispensable services.

Camouflage. Rotten camouflage!

And there have been others. The day of reckoning will surely come for all such.

—Tennessee Medical Journal.

This "coarse" work is not confined to Tennessee alone. Oklahoma has some rare specimens of the genus Assinus Medicus, who thought they were putting something over on the public when they applied for commissions, paraded the corridors and streets, sought scare head publicity by nauseating write-ups in local papers and then discovered they could not sacrifice their precious time to the Nation on account of pressing needs at home.

"CHIROS" AND APPENDICITIS.

Strange things do happen. The Chiropractors are trying to get favoragle legislation. Recently we saw some of the results of those "rubbing doctors" in two cases of appendicitis cited us by Dr. Border at the Hospital. Rev. Crumley had been treated by a "Chiro" for appendicitis. He came down here after his case became so awfully bad that death stared him in the face. When his appendix was examined there was silent proof of the violent rubbing, in its bursted and terrible inflamed condition. Rev. Crumley died because he had not had the right kind of attention at the right time, so the physicians report. A short time later Rev. Crumley's daughter took appendicitis and was at once brought to the Border Hospital for an operation. She is now well and in excellent health. We think there is small reason in giving more laxity to such methods above practised by the "rubbers."—Mangum Star.

COUNCIL ON PHARMACY AND CHEMISTRY

Articles Accepted

National Pathological Laboratories: Rabies Vaccine (Harris).

Schering and Glatz: Creosote Carbonate, S. and G.; Guaiacol Carbonate, S. and G.

NEW AND NONOFFICIAL REMEDIES.

Lutein Tablets-H. W. and D., 2 Grains. Each tablet contains 2 grains of lutein (the fully developed corpora lutea of the hog, dried and powdered). Hynson, Westcott and Dunning, Baltimore, Md. (Jour. A. M. A., Nov. 2, 1918, p. 1485).

Rabies Vaccine (Harris). An antirabic vaccine standardized by the method of Dr. Harris and stored in vacuo. Each package contains vaccine and apparatus for the administration of one complete treatment. One dose is given daily for ten days or more. National Pathological Laboratories, Chicago (Jour. A. M. A., Nov. 30, 1918, p 1825).

PROPAGANDA FOR REFORM

(Report in Part)

Digestive Absurdities. Scientific investigations have demonstrated beyond any doubt the irrationality of the combinations of digestive ferments which go to make up the various brands of aromatic digestive tablets, and all chemists and manufacturing pharmacists are familiar with these facts. The excuse for manufacturing them is that there is a call for them. It is a question whether the physician who ignorantly prescribes aromatic digestive tablets is not more morally culpable than the pharmaceutical house that supplies what such physicians demand (Jour. A. M. A., Nov. 2, 1918, p. 1489).

Value of Vaccination Against Influenza. There is no conclusive evidence that the Pfeiffer bacillus plays any greater role, if as great, in the present epidemic than any other bacteria found in the respiratory tract in this disease. Also, the influenza bacillus is a very poor antigen. There is, in fact, nothing to show that definite antibodies against this bacillus develop in the course of influenza. Animal experiments show that it requires prolonged immunization before any response becomes apparent. Again, there is no record of controlled experiments on human beings with influenza vaccine. From this it is evident that vaccination against influenza is in a wholly experimental stage (Jour. A. M. A., Nov. 9, 1918, p. 1583).

More Misbranded Nostrums. The following "patent medicines" have been declared misbranded under the U. S. Food and Drugs Act, and a "Notice of Judgment" giving an account of the prosecutions issued by the U. S. Department of Agriculture for each: Jacob's Liver Salt, an effervescent preparation consisting largely of soduim phosphate, sodium sulphate, and sodium chlorid. Lydia Pinkham's Vegetable Compound, containing 17.9 per cent. alcohol, and 0.56 gm. of solids to each 100 cc., with vegetable extractive material present. Maguire's Extract of Benne Plant and Catechu Compound, containing over 39 per cent. of alcohol and 1-10 grain of morphin to each fluidounce, besides camphor, catechu and peppermint. Hood's Sarsaparilla, a mixture of alcohol and water, containing about 0.9 per cent. of potassium iodid with sugar, vegetable extractives, which give indications of the presence of sarsaparilla, licorice, and a laxative drug resembling senna. Booth's Hyomei Dri-Ayr, consisting essentially of oil of eucalyptus, together with a small amount of resin-like solids and a mineral oil and a little alcohol. Hill's Kidney Kaskara Tablets, an iron oxid, sugar-coated tablet carrying emodin, caffein, acid resin, magnesium carbonate and talcum. Hancock Sulphur Compound, a calcium sulphid solution. Hancock Sulphur Compound Ointment, a petrolatum ointment containing sulphur, ash (chiefly lime) abd phenol. Palmer's Skin Whitener, containing amoniated mercury, mixed with a fatty base. Grossman's Specific Mixture, a balsam copiaba mixture (Jour. A. M. A., Nov. 16, 1918, p. 1681).

A Short Sighted Druggist. A correspondent writes: "I went to a nearby drug store and asked for twenty-five cents' worth of Liquor Antisepticus Alkalinus; I got one ounce! The druggist charged me fifteen cents an ounce, and ten cents for the container. Next time I fear I shall be forced to get Glycothymoline." To penalize a man who calls for an official product so as to drive him to ask for a "patent medicine" of the same general character is both poor pharmacy and bad business (Jour. A. M. A., Nov. 23, 1918, p. 1745).

Kennedy's Tonic Port. Kennedy's Tonic Port was booze sold as "patent medicine." Its conflict with the law came when a bottle of the preparation was sold at a Regina drug store in November, 1917, in that the sale of alcoholic beverages is prohibited in Saskatchewan. The Saskatchewan authorities proceeded against this concern, and the drug store proprietors were convicted and fined. They appealed the case, but the judge before whom the appeal was heard decided against the concern and increased the fine. Booze is booze in Saskatchewan (Jour. A. M. A., Nov. 23, 1918, p. 1763).

Compound Solution of Cresol. In an eastern institution where members of the U. S. hospital corps are being instructed, a bottle containing Liquor Cresolis Compositus is labeled "Lysol" so that doctors may recognize it. Comment is superfluous (Jour. A. M. A., Nov. 30, 1918, p. 1830).

Autolysin and Beer. Henry Smith Williams, who exploits "Proteal Therapy," also runs a publishing concern, the Goodhue Company, and has associated with him his brother, Edward Huntington Williams. Some time ago, complimentary copies of a book, "Alcohol, Hygiene and Legislation," written by Edward Huntington Williams, and published by the Goodhue Company, were sent broadcast to physicians with the compliments of author and publisher. The book championed the lighter alcoholic beverages and questioned the value of prohibition. Enclosed with the book was an advertising leaflet on the "Autolysin" cancer cure and a letter calling attention to a book by Henry Smith Williams on the Autolysin Treatment of Cancer. Now the secretary of the United States Brewers' Association has testified before a Senate Committee, according to newspaper reports, that a "Dr. Edward H. Williams" was employed to write articles "relating to the brewers' trade." Is the Dr. Edward Huntington Williams who wrote "Alcohol, Hygiene and Legislation" the "Dr. Edward H. Williams" who was employed by the brewers to write propagnda favorable to the brewing interests? Was the cloth-bound book, "Alcohol, Hygiene and Legislation," paid for, wholly or in part, by the United States Brewers' Association? (Jour. A. M. A., Nov. 30, 1918, p. 1846).

TONSIL INFECTIONS.

H. J. Nichols and J. H. Bryan, Washington, D. C. (*Journal A. M. A.*, Nov. 30, 1918), have studied the hemolytic streptococcus infections and are convinced that the tonsils play a part that should be emphasized. Swab cultures were made from various portions of the air passages, and the results pointed strongly to the tonsils as the foci of infection. Additional evidences as to their importance in carriers were found in the results of throat cultures taken after tonsillectomy. The removal of the diseased tonsil is, in their opinion, a necessity in carriers for the good of others, and they summarize their conclusions as follows: "1. The tonsils are the principal foci of infection in throat carriers of *Streptococcus hemolyticus*. (a) Cultures taken from different parts of the nose, mouth and throat show more streptococci in the tonsils than elsewhere. (b) Cultures from excised tonsils show streptococci in 75 per cent. of cases. (c) Crypt cultures show a higher percentage of positive results than surface cultures. (d) Excision of the tonsils renders the throat negative in nearly all cases. 2. The streptococci isolated from tonsils and throats show no cultural difference on sugar mediums from those obtained from empyema fluids. 3. Excision is the only radical method of curing carriers of the infection. (a) Dobell's solution, dichloramin-T and hot alcohol had little better effect than no treatment. (b) Silver nitrate, 25 per cent., gave the better results in negative throat cultures, but the crypts frequently remained positive. 4. The presence of hemolytic streptococci in pathologic tonsils is an additional reason for their removal."

INFLUENZA VACCINE

H. L. Barnes, Wallum Lake, R. I. (*Journal A. M. A.*, Dec. 7, 1918), reports his experience with the influenza vaccine furnished by Dr. Timothy Leary of the Tuft's College Medical School, at the Wallum Lake Sanatorium. The epidemic attacked the institution early in October and spread throughout the population, till there had been a total of eighty-two cases, or 25 per cent. of the total population. Counting all cases that occurred both before and after vaccination, forty-five, or 40 per cent. developed influenza. In computing the incidence of the disease for comparison between vaccinated and unvaccinated, no cases were counted that developed before the vaccine was given and no patient counted as vaccinated until he had received the three doses. Before the arrival of the vaccine eight cases that terminated fatally, had developed. Deducting children who were quarantined and so far as known not exposed, the influenza incidence was 20 per cent. The conclusion reached is that the morbidity was only slightly lower among the vaccinated, and the mortality from influenza was practically the same among vaccinated and unvaccinated patients.

OFFICERS OF OKLAHOMA STATE MEDICAL ASSOCIATION.

President—Dr. L. S. Willour, McAlester (A. E. F. in France).

President-elect—Dr. L. J. Moorman, Oklahoma City.

1st Vice-President,—Dr. E. D. James, Miami.

2nd Vice- President—Dr. H. M. Williams, Wellston.

3rd Vice-President,—Walter Hardy, Ardmore.

Delegate to A. M. A., 1919-1920—LeRoy Long, Oklahoma City.

Meeting place, Muskogee—May 20-21-22, 1919 Headquarters, Hotel Severs. For details address Dr. A. L. Stocks, Barnes Building, Muskogee.

CHAIRMEN OF SCIENTIFIC SECTIONS.

Surgery and Gynecology—A. A. Will, Oklahoma City.

Pediatrics and Obstetrics—Vice Chairman, O. A. Flanagan, 305 Bliss Bldg., Tulsa.

Eye, Ear, Nose and Throat—R. O. Early, Ardmore.

General Medicine, Nervous and Mental Diseases—F. W. Ewing, Muskogee.

Genitourinary, Skin and Radiology—R. T. Edwards, Oklahoma City.

Legislative Committee—Dr. Millington Smith, Oklahoma City; Dr. J. M. Byrum, Shawnee; Dr. W. T. Salmon, Oklahoma City.

For the Study and Control of Cancer—Drs. LeRoy Long, Oklahoma City; Gayfree Ellison, Norman; D. A. Myers, Lawton.

For the Study and Control of Pellagra—Drs. A. A. Thurlow, Norman; L. A. Mitchell, Frederick; J. C. Watkins, Checotah.

For the Study of Venereal Diseases—Drs. Wm. J. Wallace, Oklahoma City; Ross Grosshart Tulsa; J. E. Bercaw, Okmulgee.

Necrology—Drs. Martha Bledsoc, Chickasha; J. W. Pollard, Bartlesville.

Tuberculosis—Drs. L. J. Moorman, Oklahoma City; C. W. Heitzman, Muskogee; Leila E. Andrews, Oklahoma City.

Conservation of Vision—Drs. L. A. Newton, Oklanoma City; L. Haynes Buxton, Oklahoma City; G. E. Hartshorne, Shawnee.

Hospital Committee—F. S. Clinton, Tulsa: M. Smith, Oklahoma City: C. A. Thompson, Muskogee.

Committee on Medical Education—Drs. A. L. Blesh; A. K. West; A. W. White, Oklahoma City.

State Commissioner of Health—Dr. John W. Duke, Guthrie, Oklahoma

COUNCILOR DISTRICTS.

District No. 1. Texas, Beaver, Cimarron, Harper, Ellis, Woods, Woodward, Alfalfa, Major, Grant, Garfield, Noble and Kay. G. A. Boyle, Enid.

District No. 2. Dewey, Roger Mills, Custer, Beckham, Washita, Greer, Kiowa, Harmon, Jackson and Tillman. Ellis Lamb, Clinton.

District No. 3. Blaine, Kingfisher, Canadian, Logan, Payne, Lincoln, Oklahoma, Cleveland, Pottawatomie, Seminole and McClain. G. M. Maupin, Waurika.

District No. 4. Caddo, Grady, Comanche, Cotton, Stephens, Jefferson, Garvin, Murray, Carter, and Love. J. T. Slover, Sulphur.

District No. 5. Pontotoc, Coal, Johnston, Atoka, Marshall, Bryan, Choctaw, Pushmataha and McCurtain. J. L. Austin, Durant.

District No. 6. Okfuskee, Hughes, Pittsburg, Latimer, LeFlore, Haskell and Sequoyah. Vacant.

District No. 7. Pawnee, Osage, Washington, Tulsa, Creek, Nowata and Rogers. N. W. Mayginnis, Tulsa.

District No. 8. Craig, Ottawa, Delaware, Mayes, Wagoner, Cherokee, Adair, Okmulgee, Muskogee and McIntosh. J. H. White, Muskogee.

STATE BOARD OF MEDICAL EXAMINERS.

Melvin Gray, M. D., Durant, President; B. L. Denison, M. D., Garvin, Vice-President; J. J. Williams, M. D., Weatherford, Secretary; O. R. Gregg, M. D., Waynoka, Treasurer; E. B. Dunlap, M. D., Lawton; Ralph V. Smith, M. D., Tulsa; W. LeRoy Bonnell, M. D., Chickasha; Wm. T. Ray, M. D., Gould; W. E. Sanderson, M. D., Altus; H. C. Montague, D. O., Muskogee.

Reciprocity with Georgia, Kentucky, Mississippi, Nevada, North Carolina, Wisconsin, Kansas, Arkansas, Virginia, West Virginia, Nebraska, New Mexico, Tennessee, Iowa, Ohio, California, Colorado, Indiana, Missouri, New Jersey, Vermont, Texas, Michigan.

Meetings held second Tuesday of January, April, July and October, Oklahoma City.

Address all communications to the Secretary, Dr. J. J. Williams, Weatherford.

OFFICERS OF COUNTY SOCIETIES, 1919

County	President	Secretary
Adair		
Alfalfa		
Atoka-Coal		
Beaver		
Beckham		
Blaine		J. A. Norris, Okeene
Bryan		
Caddo		
Canadian		
Choctaw		
Carter		
Cleveland		
Cherokee		
Custer		
Comanche		
Coal-Atoka		
Cotton		
Craig		
Creek		
Dewey		
Ellis		
Garfield		
Garvin		
Grady		
Grant		
Greer		
Harmon		
Haskell		
Hughes		
Jackson	J. S. Stults, Olustee	W. H. Rutland, Altus
Jefferson		
Johnson		
Kay		
Kingfisher		
Kiowa		
Latimer		
Le Flore		Harrell Hardy, Poteau
Lincoln		
Logan		
Love		
Mayes		
Major		
Marshall		
McClain		
McCurtain		
McIntosh	S. W. Minor, Hitchita	W. A. Tolleson, Eufaula
Murray		
Muskogee	J. L. Blakemore, Muskogee	H. C. Rogers, Muskogee
Noble		Benj. A. Owen, Perry
Nowata	J. E. Brookshire, Nowata	J. R. Collins, Nowata
Okfuskee		
Oklahoma	W. J. Wallace, Oklahoma City	J. N. Alford, Oklahoma City
Okmulgee		A. B. Holmes, Henryetta
Ottawa	A. M. Cooter, Miami	G. Pinnell, Miami
Osage	A. J. Smith, Pawhuska	Benj. Skinner, Pawhuska
Pawnee		E. T. Robinson, Cleveland
Payne		
Pittsburg		
Pottawatomie		
Pontotoc	L. M. Overton, Fitzhugh	S. P. Ross, Ada
Pushmataha		
Rogers		
Roger Mills		
Seminole		
Sequoyah		
Stephens		
Texas		
Tulsa	G. A. Wall, Tulsa	C. A. Pigford, Tulsa
Tillman		
Wagoner		
Washita		
Washington		
Woodward		
Woods		

You've Talked About State Tuberculosis Sanatoria —Now's Your Time to ACT!

THE lay sentiment throughout the state has been crystalized in favor of the immediate provision of tuberculosis sanatoria for the treatment of advanced and early cases of tuberculosis. The people of the state have been aroused to the necessity of the enactment of this much needed legislation. But lay sentiment alone is not sufficient to impress the legislature so forcibly that the proper legislation together with an adequate appropriation for the establishment of SANATORIA will be passed.

Added to this lay sentiment must be the professional opinion of the Doctors of this state. And this united expression must make itself known without delay if the tremendous weight which it bears is not to be lost.

It's your duty, Doctor—to express your views to the LEGISLATURE

There is no need of telling you about the 40,000 persons among us with active tuberculosis—nor is it necessary to remind you of the 3,000 annual deaths from this disease—the terrible toll of the white plague. Your everyday practice brings you in contact with the conditions as they actually exist and who if not the physician knows the real unvarnished truth?

You talk of removing the dangers of Childhood Infection—you heatedly argue the need of Segregation of the positive case and yet we all know that without a place to send our patients, most of our efforts in this direction are futile and doomed to failure.

They Need Your Advice NOW—Don't Delay

The Legislature is considering the establishment of SANATORIA at this very moment and it is waiting for the Doctor to tell his story and offer his opinion. Get in immediate touch with your legislator by letter or telegram before it is too late.

In the name of those unfortunates who left this earth without a fighting chance to get well—in the name of the thousands of orphans and widows they left behind them—in the name of the many thousands more who are likewise doomed unless something is done at once—WRITE TODAY—NOW!

OKLAHOMA TUBERCULOSIS ASSN.

"The State Society for the Prevention of Tuberculosis"

315 Oklahoman Building OKLAHOMA CITY